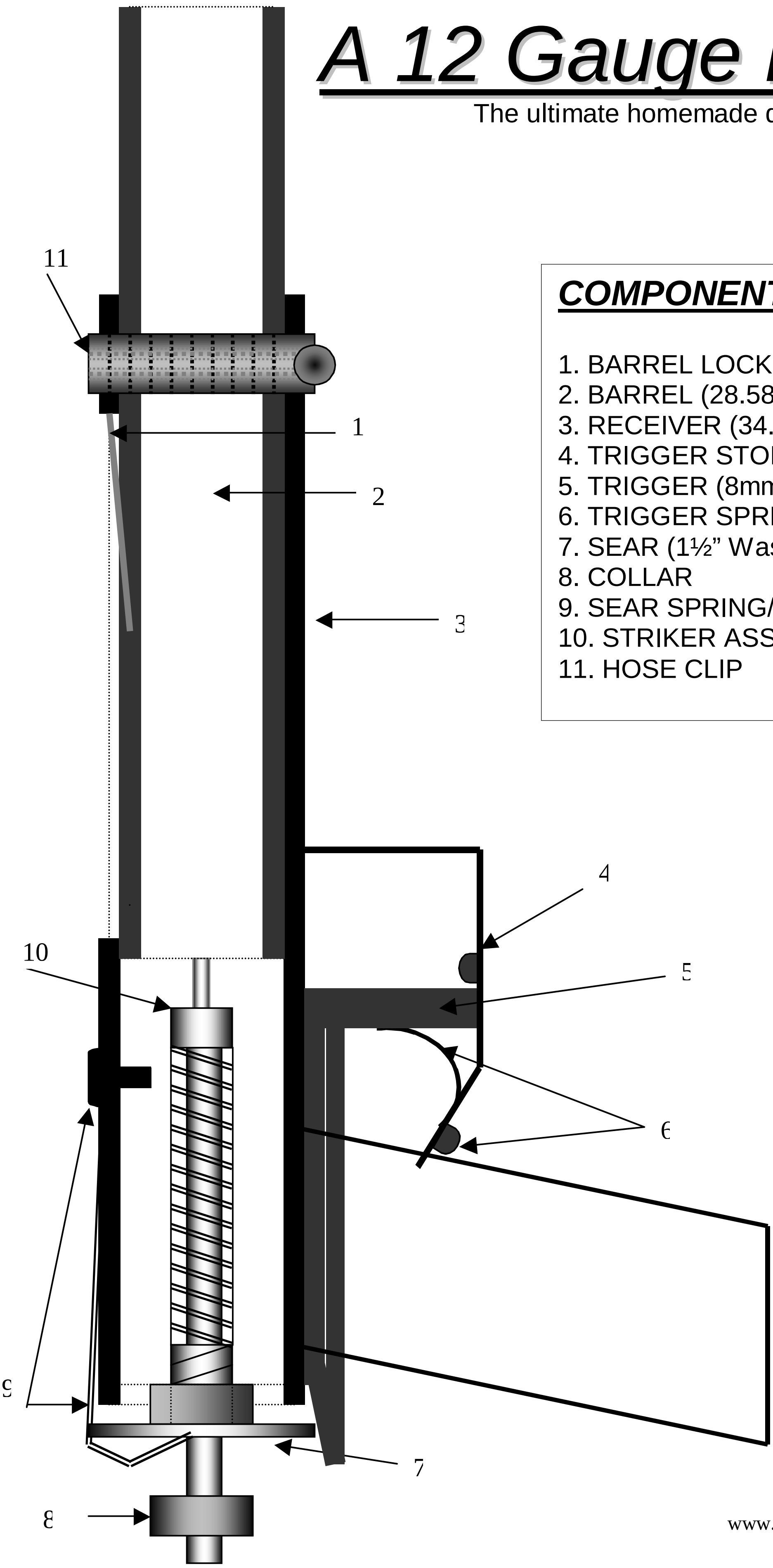
A 12 Gauge Pistol

The ultimate homemade defence firearm.



COMPONENTS

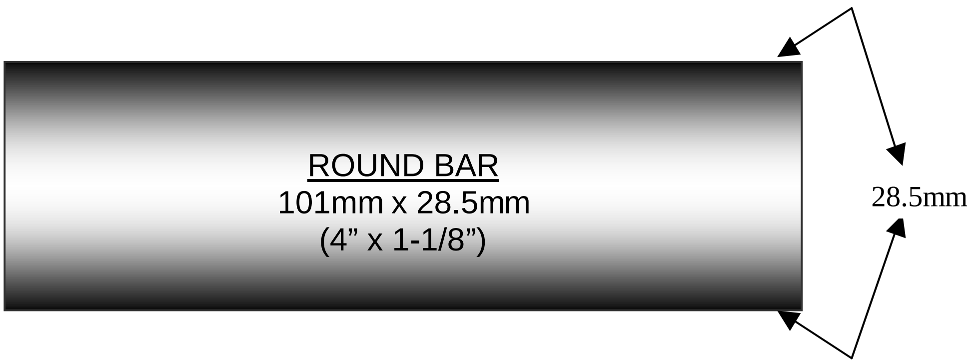
1. BARREL LOCK SPRING
2. BARREL (28.58 x 4.06)
3. RECEIVER (34.93 x 3.25)
4. TRIGGER STOP
5. TRIGGER (8mm Allen Key)
6. TRIGGER SPRING/BOLT
7. SEAR (1½" Washer)
8. COLLAR
9. SEAR SPRING/BOLT
10. STRIKER ASSEMBLY
11. HOSE CLIP

BREECH BLOCK DIMENSIONS

(Drawings in this document are not to scale or proportionate.
Refer to measurements for actual dimensions)

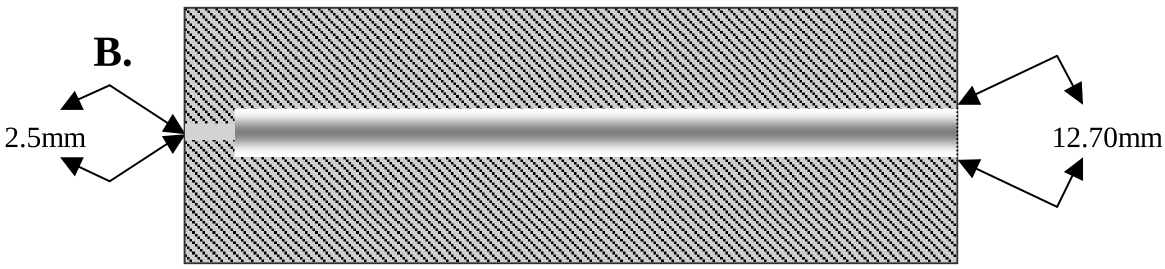
The breech block is the only section of the pistol which cannot be made by hand. This component must be machined to the following dimensions using a lathe. A section of round steel bar is required, Figure 'A', 101mm in length and 28.5mm in diameter. The recess (Hole) to accommodate the Striker (Figure 'B') is 12.70mm (1/2") in diameter and drilled to a depth of 95mm. The remaining length (Firing pin hole) is drilled to a diameter of 2.5mm.
The entrance to the striker recess, (Figure 'C') is enlarged and tapped to accept a short 5/8" diameter hexagon head bolt.

A.



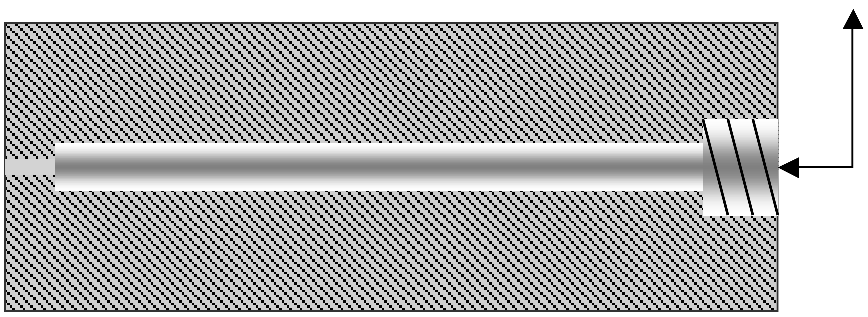
Firing Pin Recess Dimensions

B.



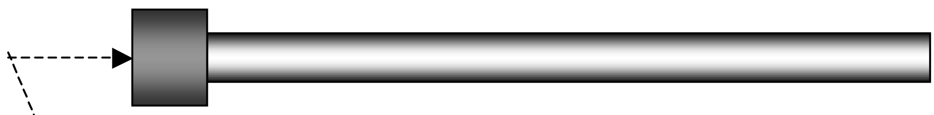
Tap hole to accept bolt.

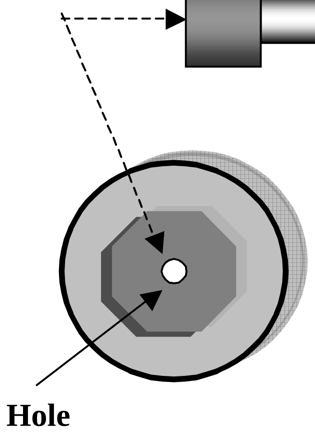
C.



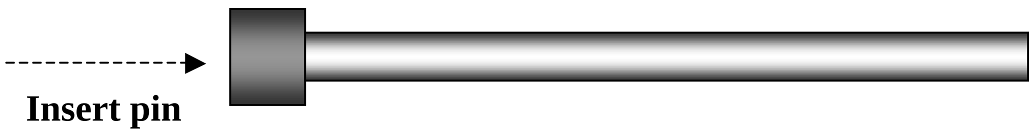
STRIKER ASSEMBLY

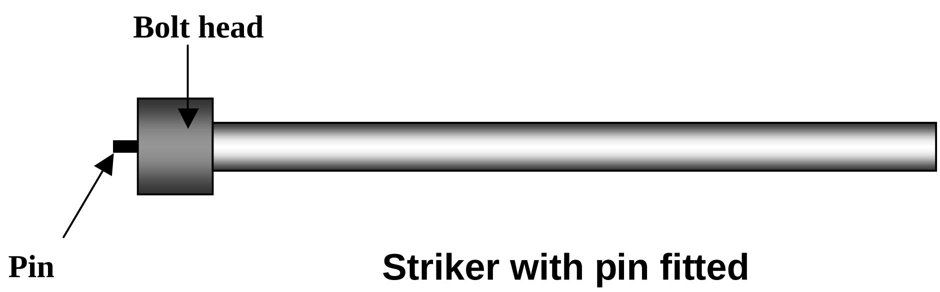
The Striker is nothing more than a section of 8mm diameter bolt with the threaded section removed. When shortened, the bolt should be 4 ¾" in length. The bolt head must be of the round variety with an allen key socket. The diameter of the bolt head must be measured. The one I used was ½" in diameter and so the striker hole was machined to a diameter of ½" to accommodate it. The bolt used for the striker must be no heavier than 8mm in diameter.





A 2mm diameter hole is drilled in the centre of the bolt head to a depth of 5/8". The firing pin is a section of 2mm diameter drill shank 25mm in length. The pin should protrude 1 to 1.5 mm from the face of the bolt head when inserted. The pin is retained using bearing adhesive.

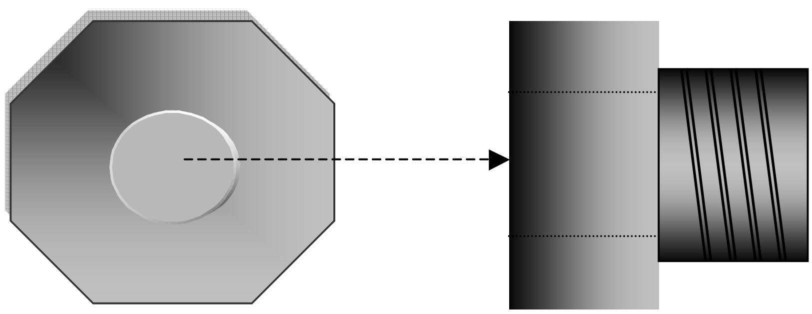




Striker with pin fitted

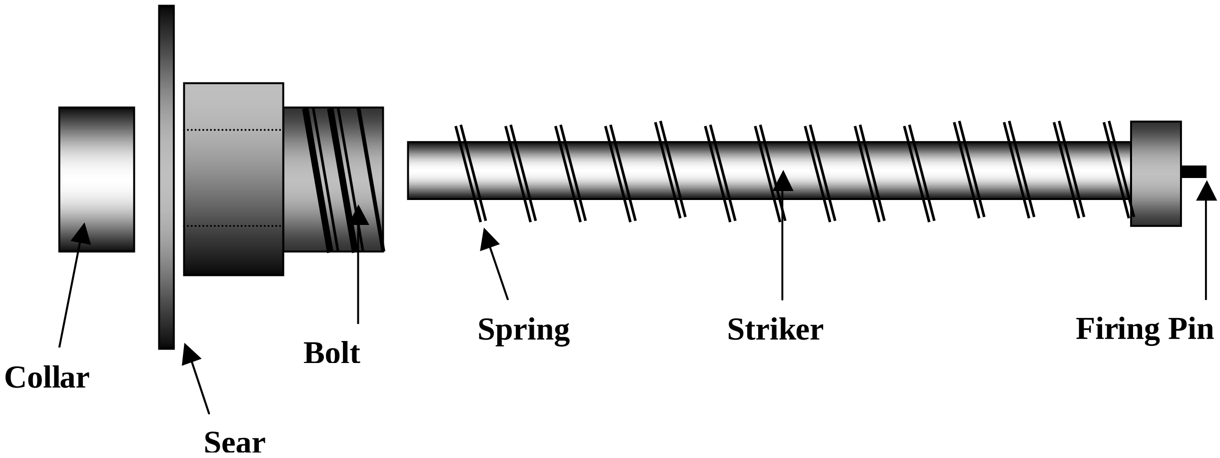
STRIKER RETAINING BOLT

The striker retaining bolt is the next component to make. This bolt screws into the rear of the breech block and holds the striker assembly in place.
The bolt consists of a short 5/8” diameter hexagon head bolt. A hole of 8mm diameter must be drilled through the exact centre of the bolt to allow the striker to pass through it. This is best carried out using a lathe but it can be done by hand if enough care is taken.
The striker spring should be coiled from 20 gauge spring wire around an 8mm diameter mandrel. The finished spring should be just under ½” in diameter and 4” in length.

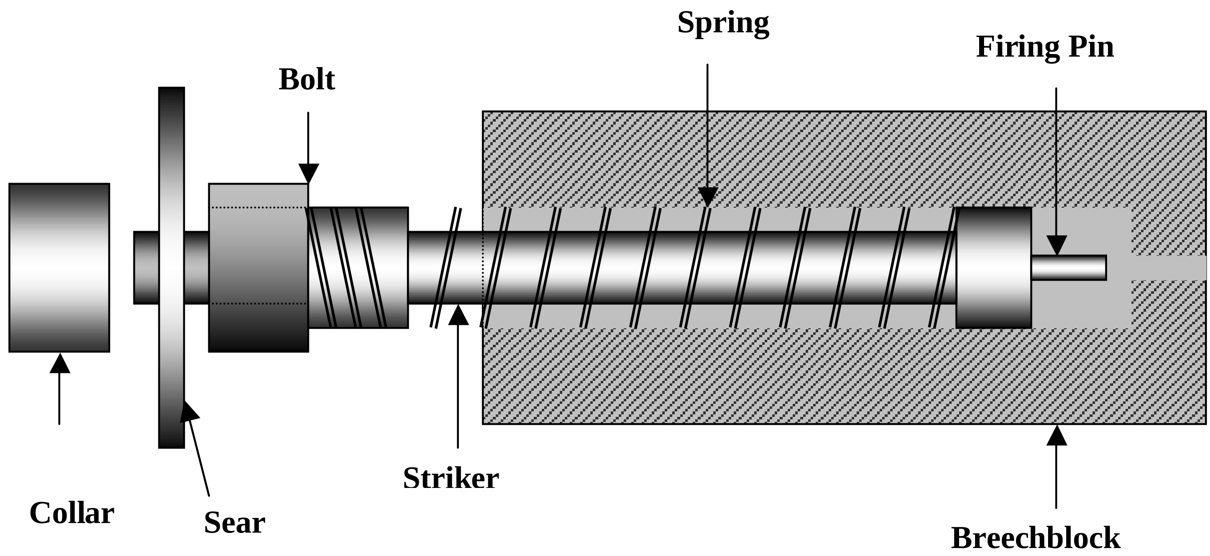


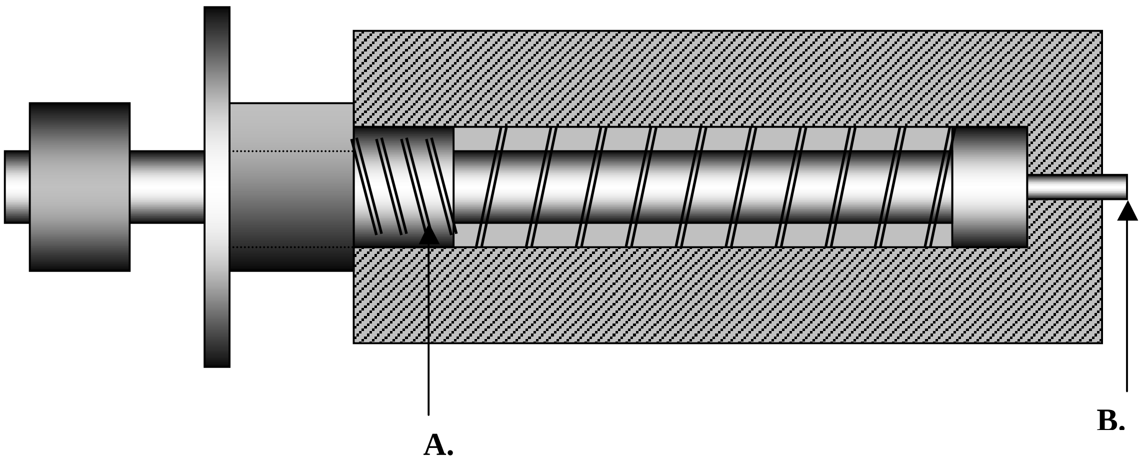
Drill 8mm hole

THE STRIKER READY FOR ASSEMBLY



ASSEMBLING THE BREECH BLOCK AND STRIKER ASSEMBLY



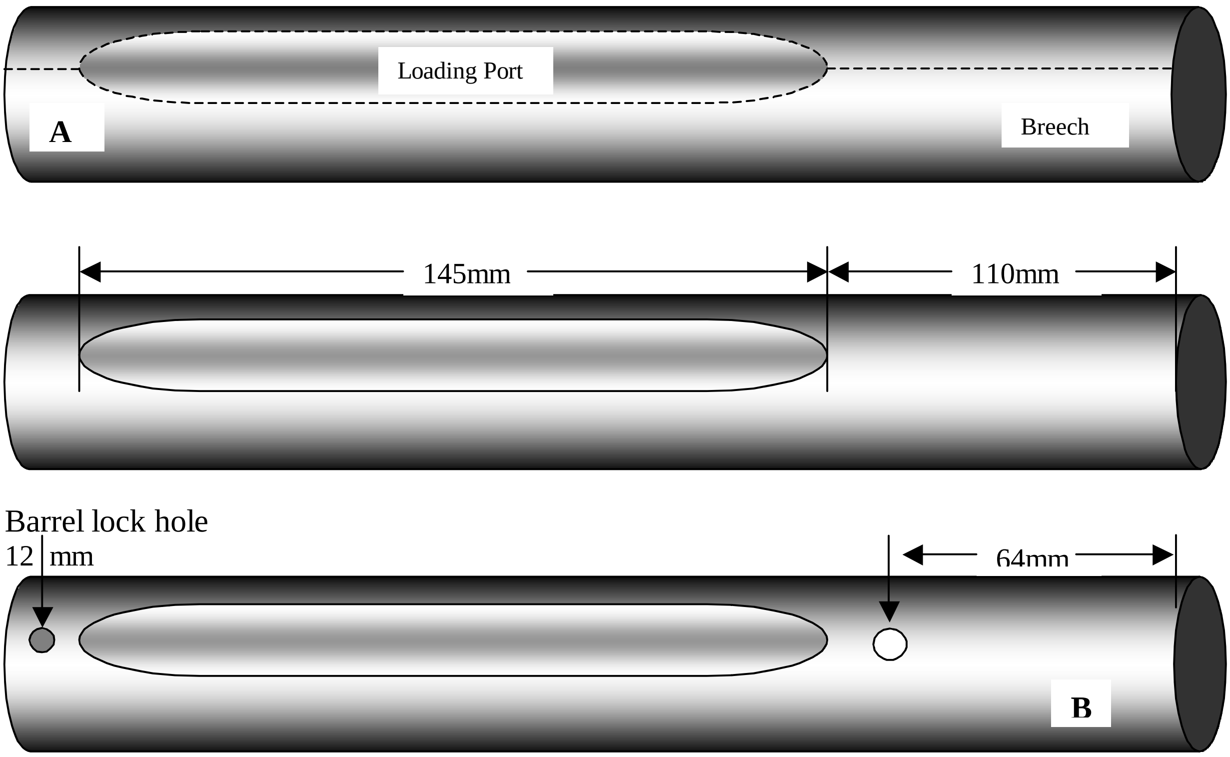


Screw in the retaining bolt 'A' and check all parts are moving smoothly.

With the striker and breech block assembled the firing pin should protrude 1 to 1.5mm from the block face, as shown at 'B' above.

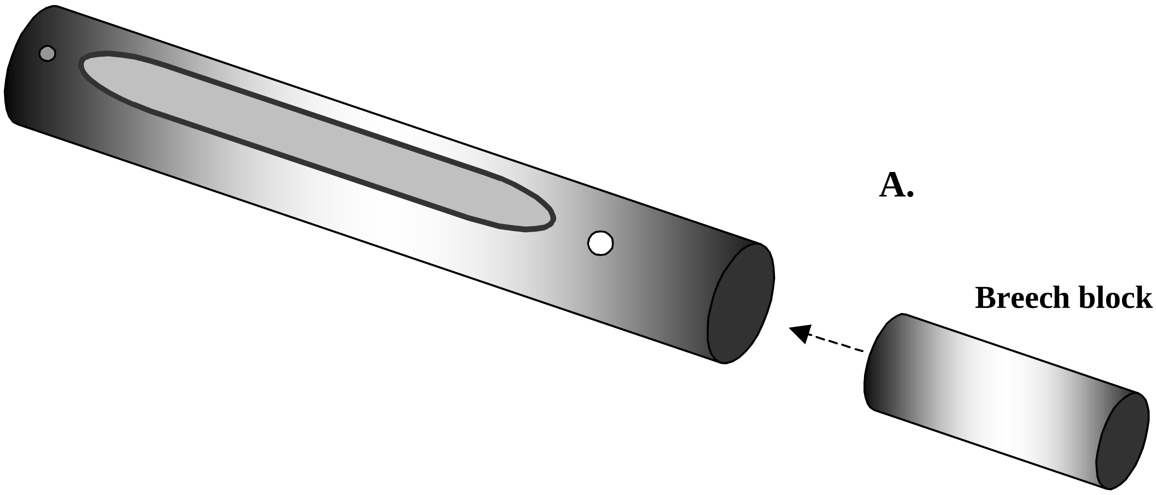
RECEIVER CONSTRUCTION

The receiver is an 11” length of 34.93 x 3.25 mm (1-3/8”) seamless tubing. Before we can fit the breech block and striker assembly, a loading port and two holes must be cut into the tube to the following dimensions.
The first step is to draw a line down the centre of the tube and then mark out the position of the port, to ensure the three holes are cut in alignment, as shown in Figure ‘A’ below. The first hole to cut is the loading port. The port is 145 mm in length and 25mm in width. It is positioned 110 mm from one end of the tube, this end now being the breech.



The next step is to drill two holes. The two holes will accept the ‘sear spring’ and ‘barrel lock spring’ in due course. The sear spring hole is drilled 64mm from the breech end, and is 6.5mm in diameter.
The barrel lock spring hole is drilled 12mm from the front of the tube, as shown in Figure ‘B’. This hole is 4mm in diameter and should be 2mm deep. The hole is blank and must not pass all the way through the tube wall. This hole will retain the barrel lock spring in position in due course.

FITTING THE BREECH BLOCK

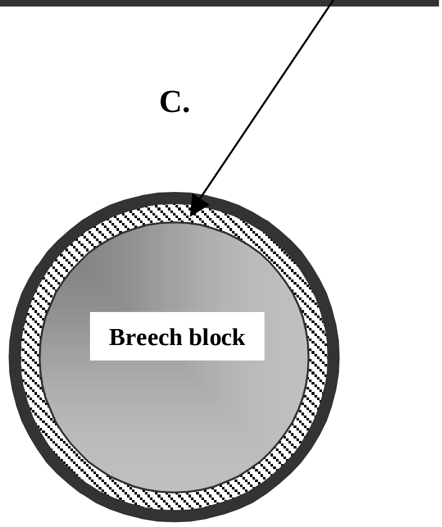


The breech block is inserted into the end of the receiver as shown in Figure ‘A’. The block is pushed into the receiver until the end of the block is seated to a depth of 1/8”, as shown in Figure ‘B’ below.

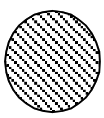


C.

The breech block is then attached permanently to the receiver by welding around the entire circumference of the inner wall of the receiver, as illustrated in Figure ‘C’.



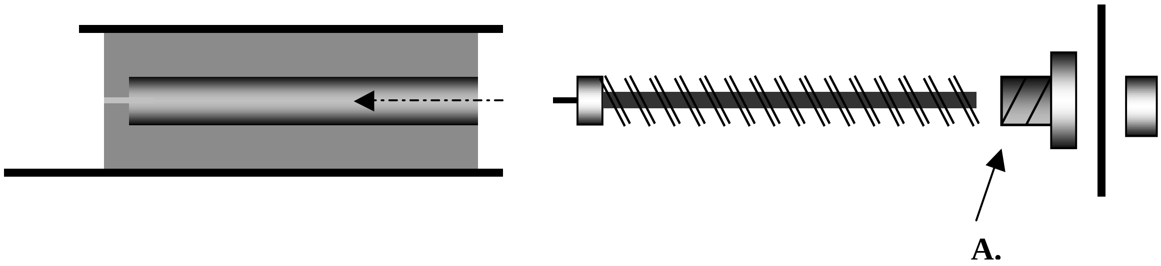
Weld area.

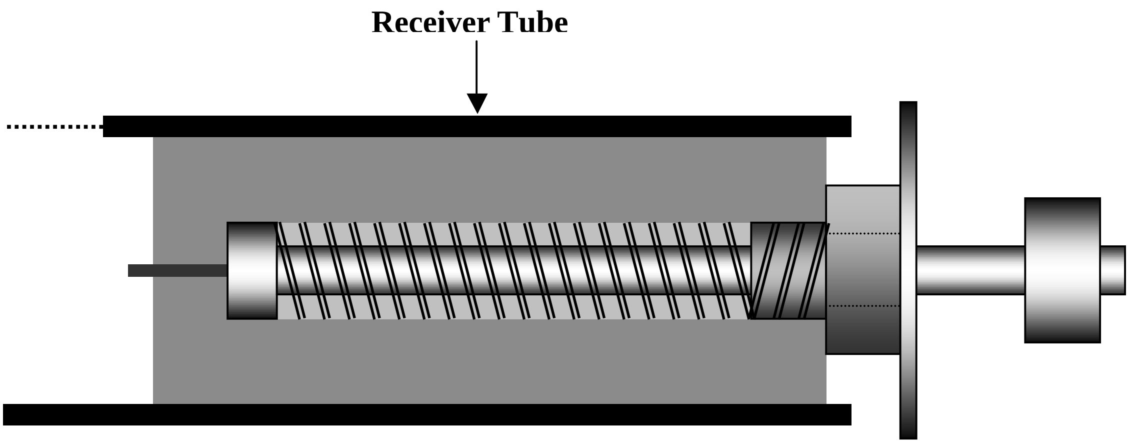


FITTING THE STRIKER ASSEMBLY

With the breechblock welded in place the striker assembly can be fitted and tested to ensure it is functioning smoothly.

The striker components are inserted into the breech block in the order illustrated below. The bolt ‘A’ is then tightened.

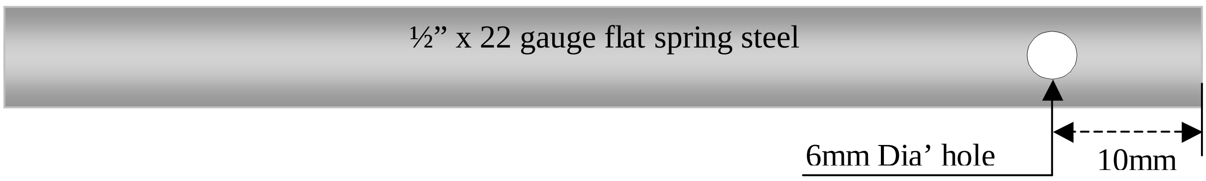


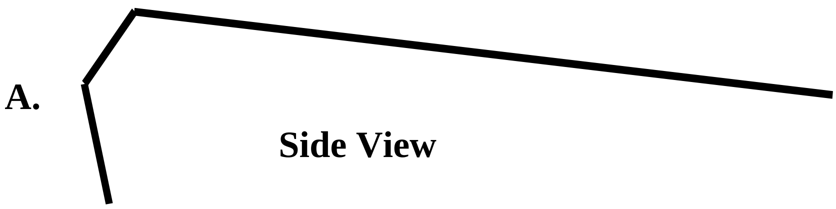


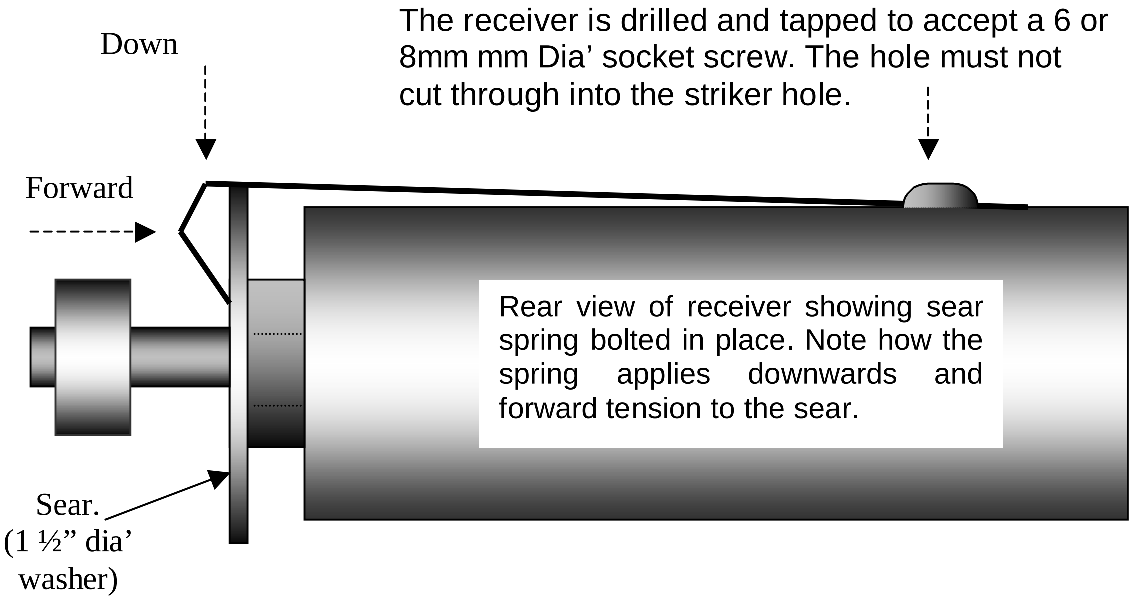
Fully Assembled

FITTING THE SEAR SPRING

The receiver is now almost fully assembled except for the sear spring.
The sear spring is made from a 4 ½" length of ½" x 22gauge spring steel strip. The spring provides downwards and forwards tension to the sear, thus locking the sear in position when the pistol is cocked. The sear consists of a standard 1 ½" diameter washer with a hole diameter of 8.5 – 9mm. The spring is formed by bending the spring to the shape of the drawing in Figure 'A' below.
Note; the drawing is only a guide and hand fitting will be required to obtain the required shape.

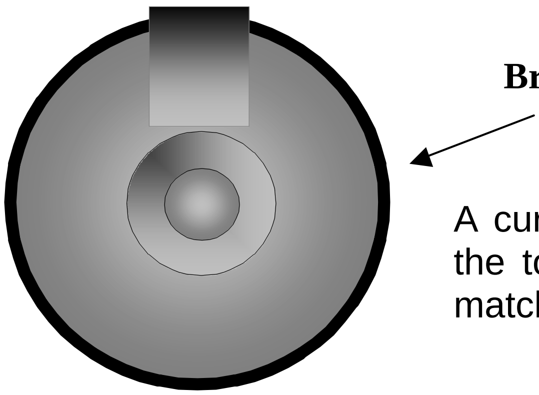






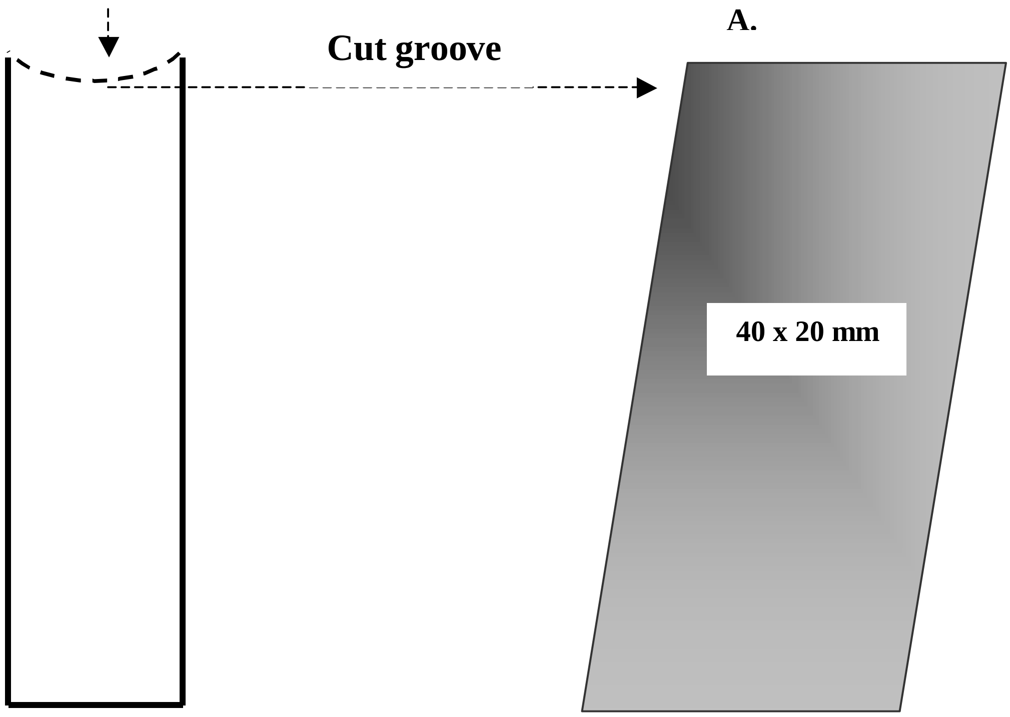
FITTING THE GRIP

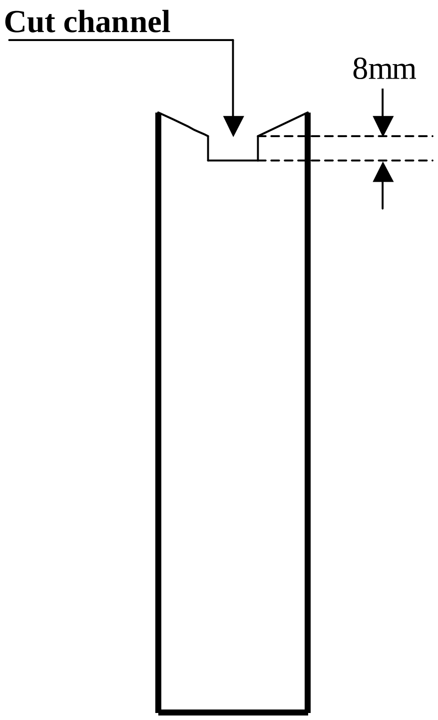
The pistols grip is nothing more than a 4" (101mm) length of 40 x 20 mm rectangular tube with a wall thickness of at least 1.6mm.
First the top of the grip must be cut to the correct shape so it will fit the round underside of the receiver tube. The grip is cut to the shape of drawing 'A' so it will be at an angle in relation to the receiver when welded in place.



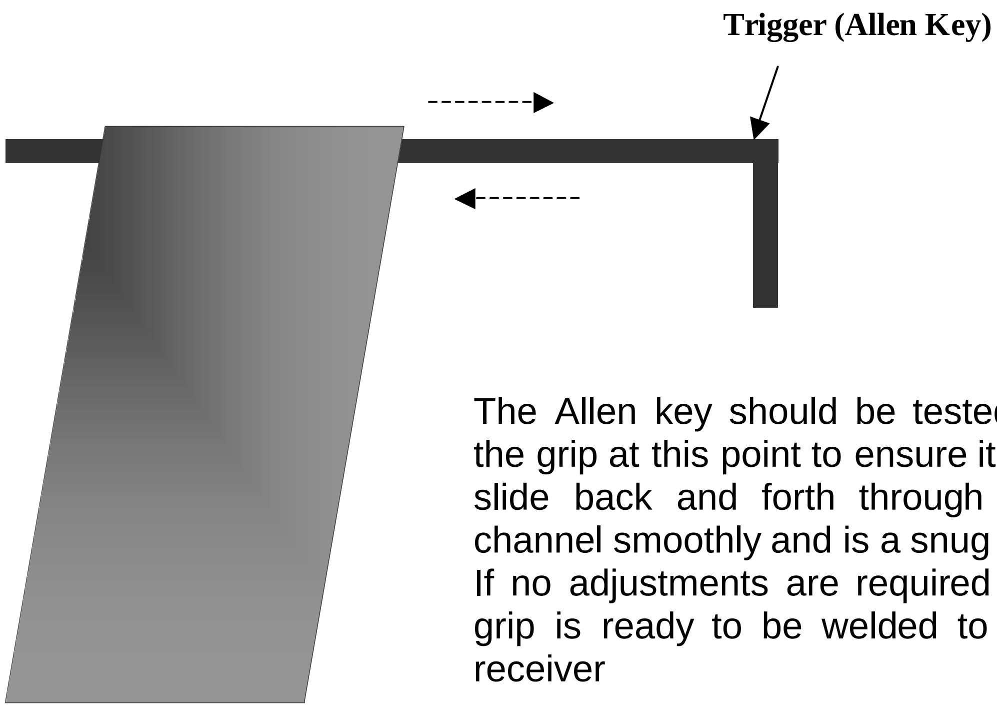
Breech view of receiver.

A curved groove must be filed into the top of the grip so the grip will match the shape of the receiver.





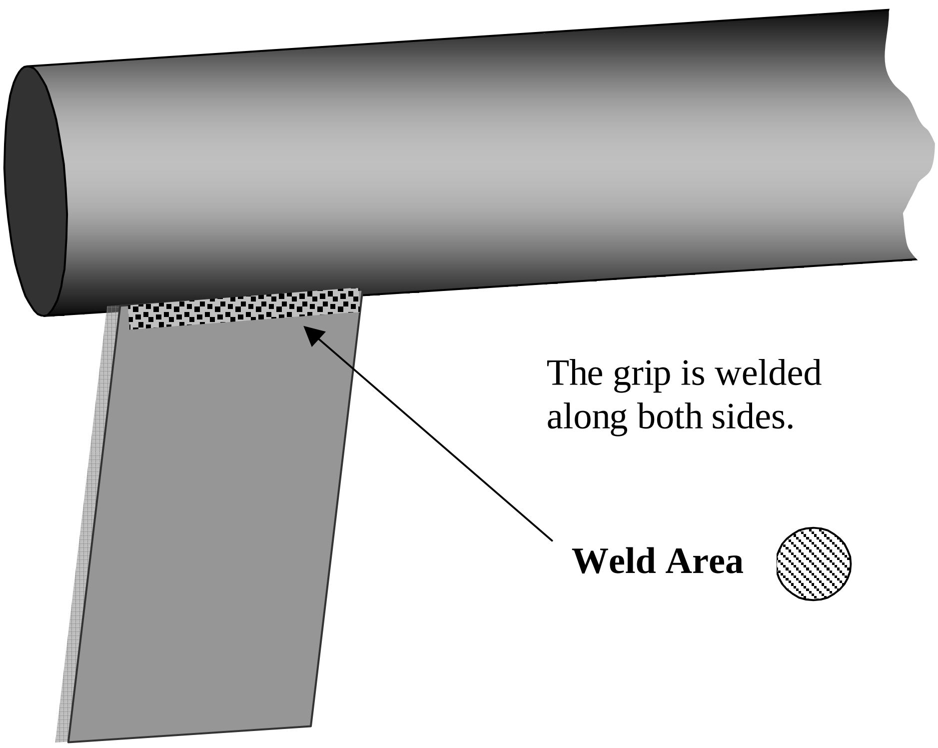
After cutting the curved groove across the top of the grip a square channel can now be cut to accept the trigger bar.
The trigger bar is a standard 8mm 'Allen key'. The channel must be cut accurately to accept the trigger.
The width of the channel is not too important but the depth must be between 8 and 8.5mm



The Allen key should be tested in the grip at this point to ensure it will slide back and forth through the channel smoothly and is a snug fit.
If no adjustments are required the grip is ready to be welded to the receiver

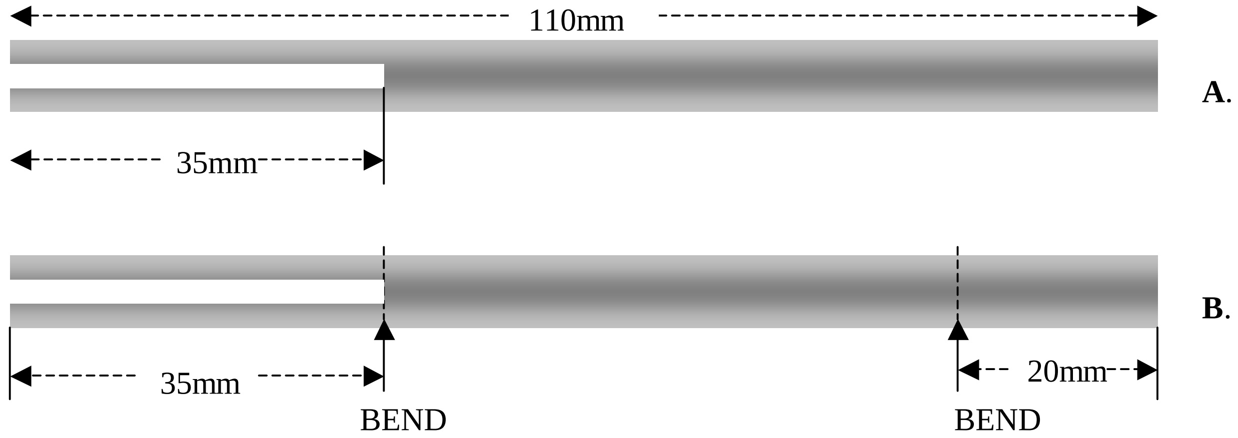
The grip is positioned 19mm (3/4”) from the breech end of the receiver as illustrated below.
The grip is welded to the receiver along both sides of the grip.
The channel for the trigger bar must be left clear.
Alternatively the grip can be brazed at the same points.

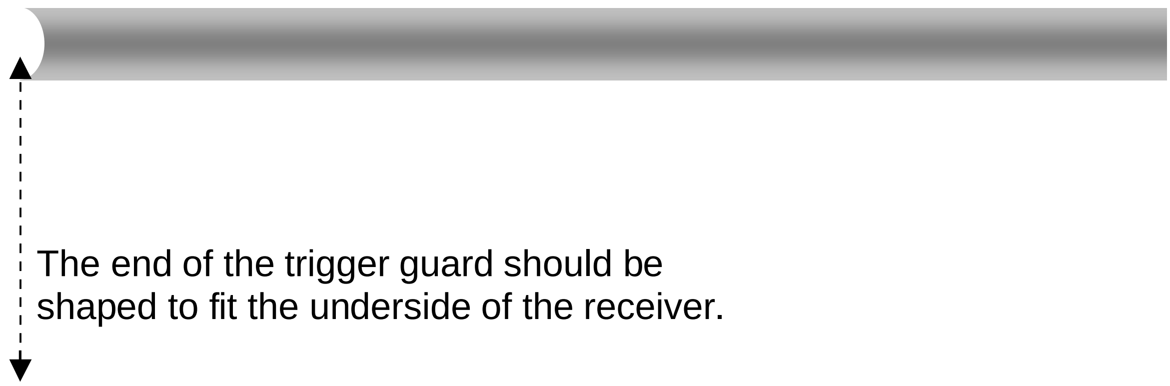




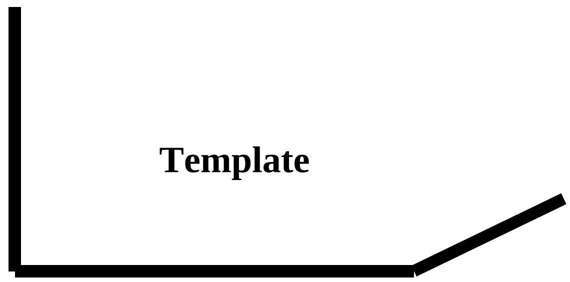
FITTING THE TRIGGER GUARD

The trigger guard consists of a 110mm length of 15.88mm (5/8”) flat bar. The thickness of the bar can be anywhere between 2.5 to 3mm (3/32” - 1/8”). A long slot is cut into the end of the bar. The slot is 9mm wide and is cut into the front wall of the guard before it is bent to shape; this allows the trigger bar to be inserted into the grip. The dimensions of the slot are shown in drawing ‘A’. The bar is formed to the correct shape by bending it at the points illustrated in drawing ‘B’.



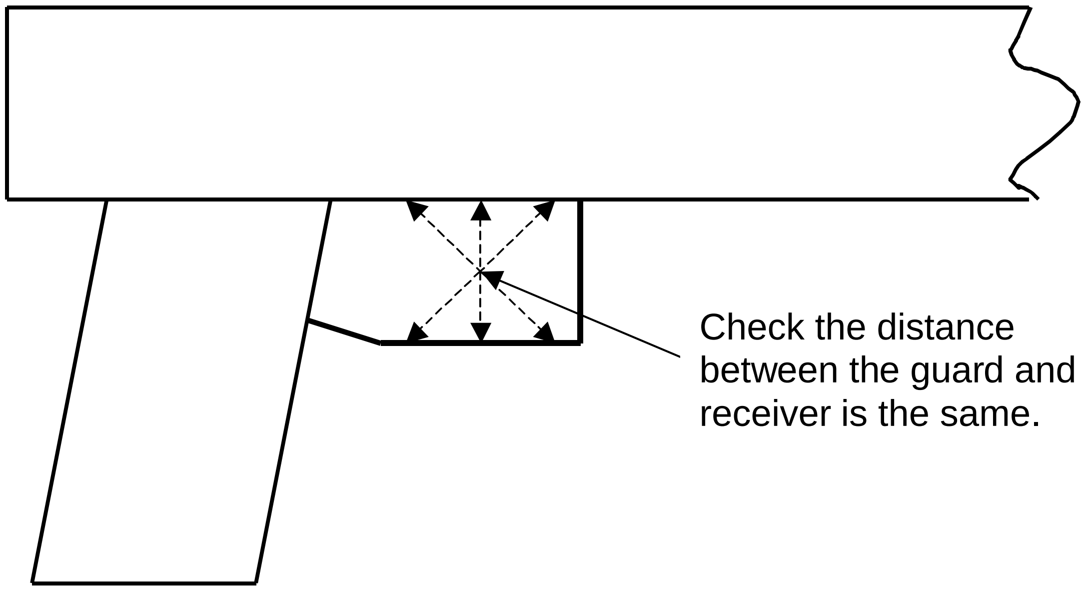


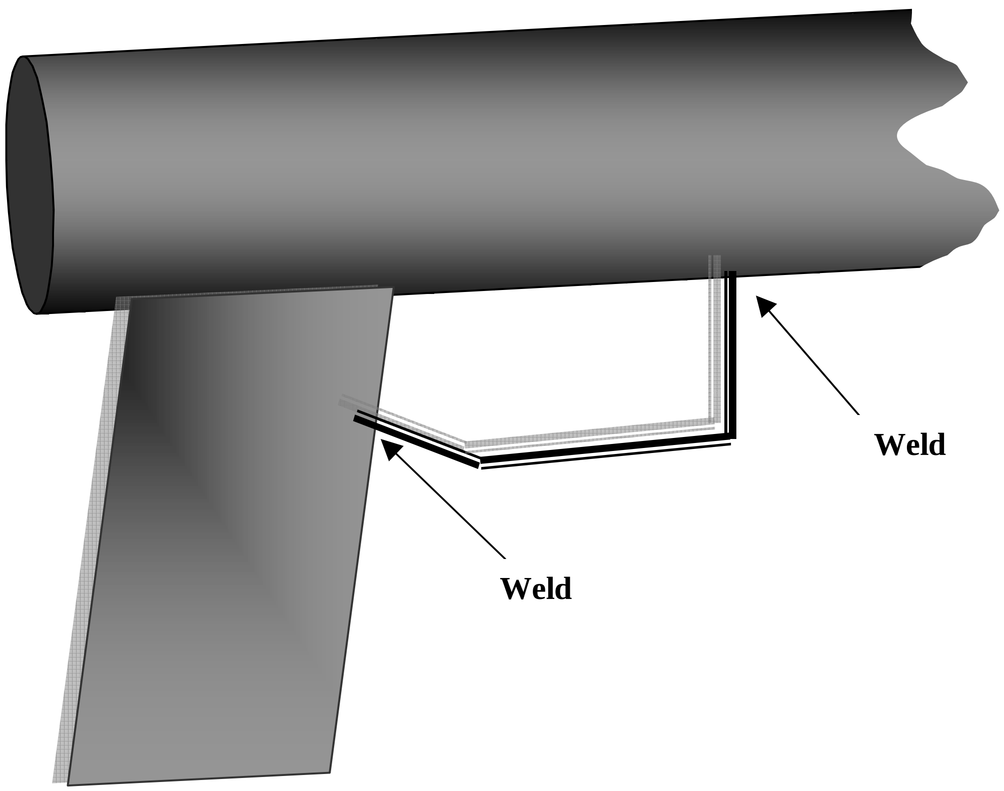
The end of the trigger guard should be shaped to fit the underside of the receiver.



Following bending the guard should look like the one opposite. Actual size shown.

With the trigger guard finished it is ready to be welded to the receiver.
A slot may be cut into the front of the grip to accommodate the end of the guard.
It is very important that the bottom of the guard is the same distance along its entire length, in relation to the underside of the receiver, before it is welded in place, as illustrated below.

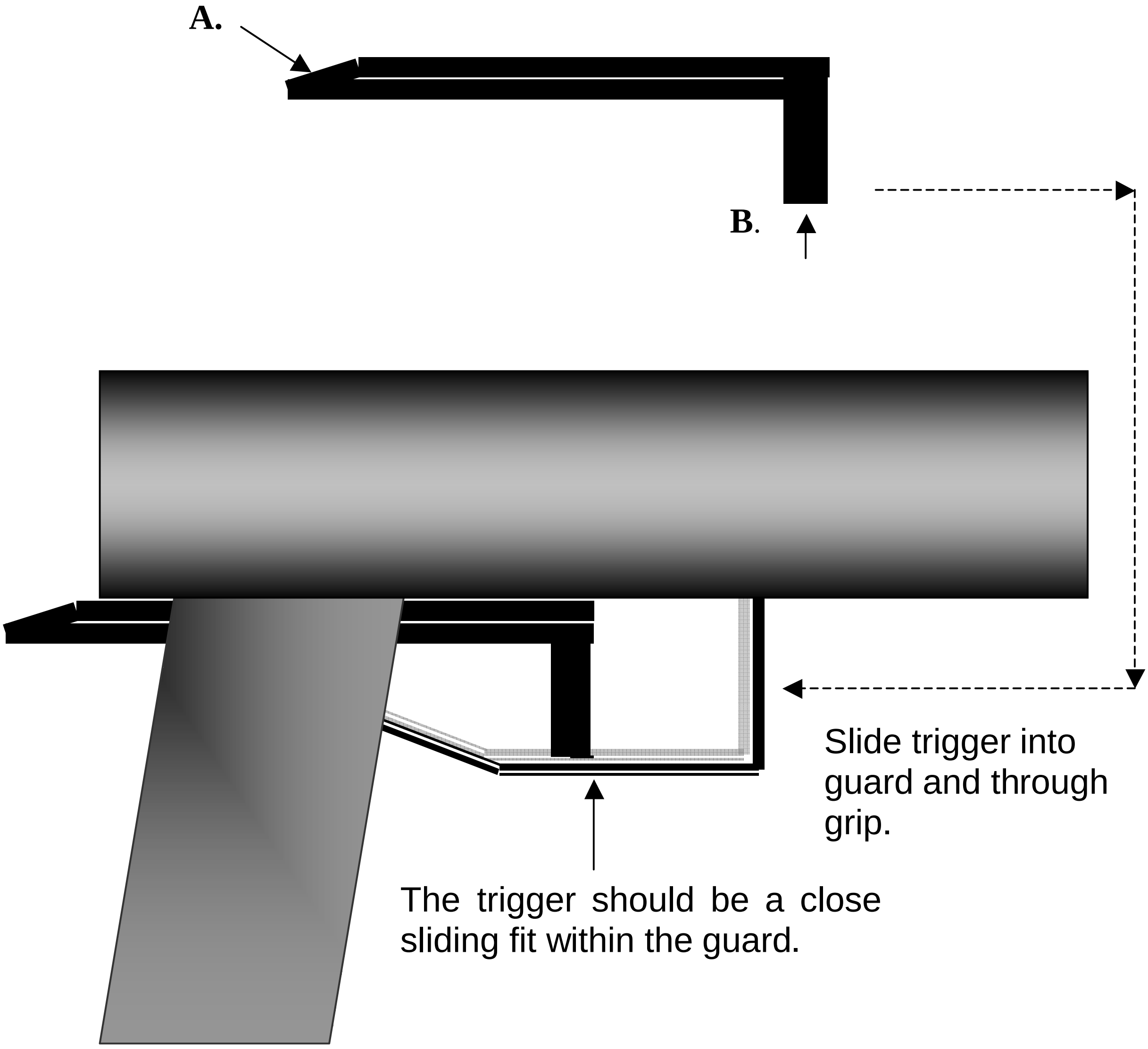




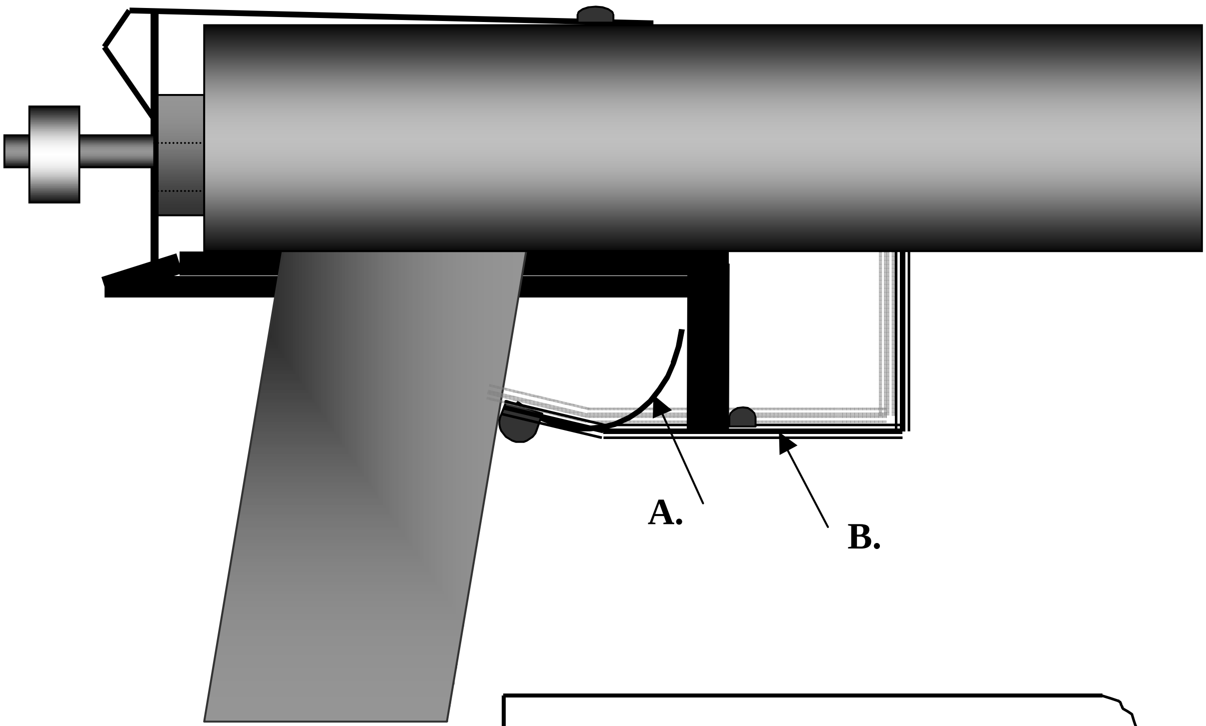
FITTING THE TRIGGER

The trigger consists of a standard 8mm diameter Allen key, available from any hardware store. The trigger slides into the trigger guard through the slot we cut earlier in the front wall of the guard.
Before we can fit the trigger it must be modified slightly. The tip of the trigger must be filed away until it is angular in shape, as illustrated in drawing ‘A’. It may also be necessary to shorten end ‘B’ to allow it to slide into the guard.

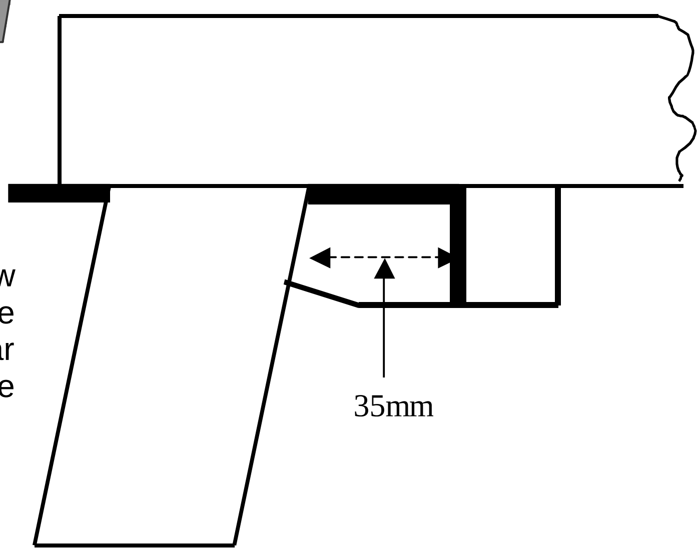
Trigger (Allen Key)



The next part to fit is the ‘trigger return spring’, and the ‘trigger stop screw’.
As the name implies, the trigger return spring ensures the trigger returns to its correct position when pressure on the trigger is released. It is simply a short length of 20 or 22 gauge spring steel, formed into a curve and bolted to the trigger guard in the position illustrated in Figure ‘A’.
The trigger stop screw consists of a round headed screw or bolt (cap head) screwed into, or bolted to, the trigger guard at position ‘B’.



With the trigger stop screw fitted, the gap between the front of the grip and the rear of the trigger should be about 35mm.



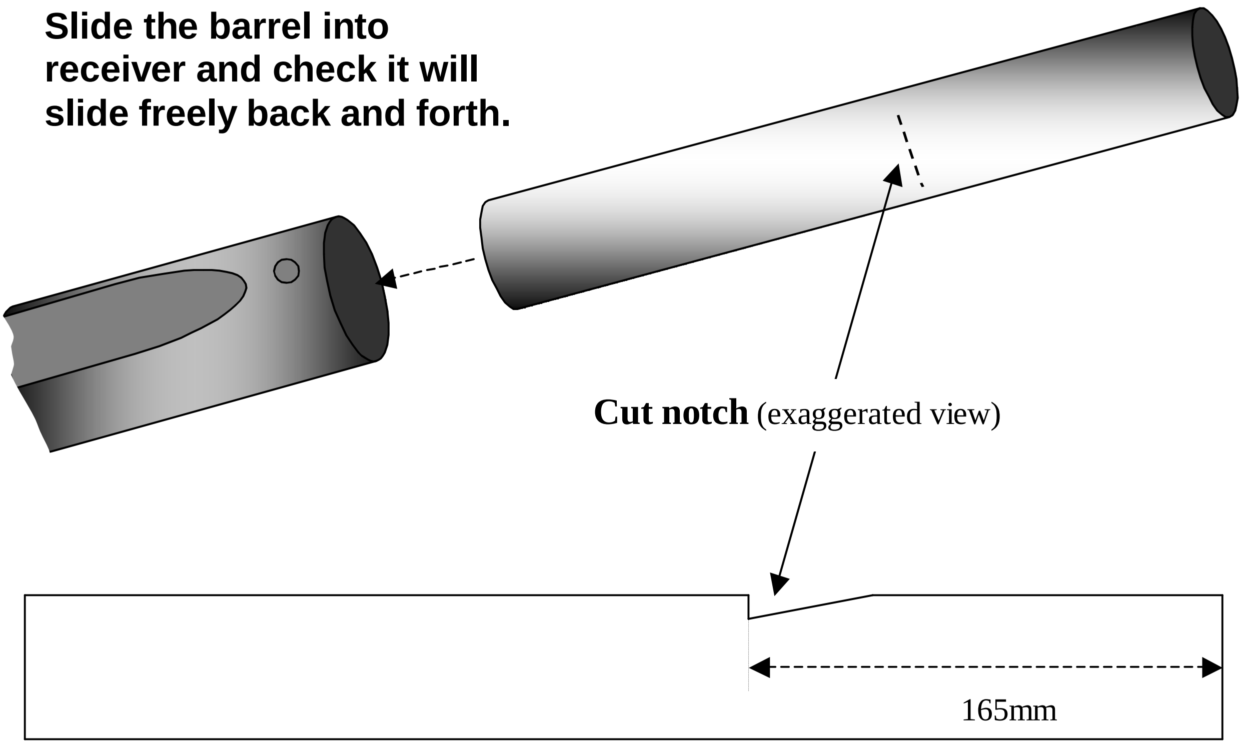
FITTING THE BARREL

The firearm is now almost complete except for fitting the barrel and barrel lock spring.

The 12 gauge calibre barrel consists of an 11'' length of 28.58 x 4.06mm (1-1/8") seamless tubing. The inside diameter of this tube is 20.46mm meaning that a 12 gauge cartridge is almost a perfect fit when chambered. The tube is cut to the required length and both ends are polished with sandpaper to remove any sharp edges, etc.

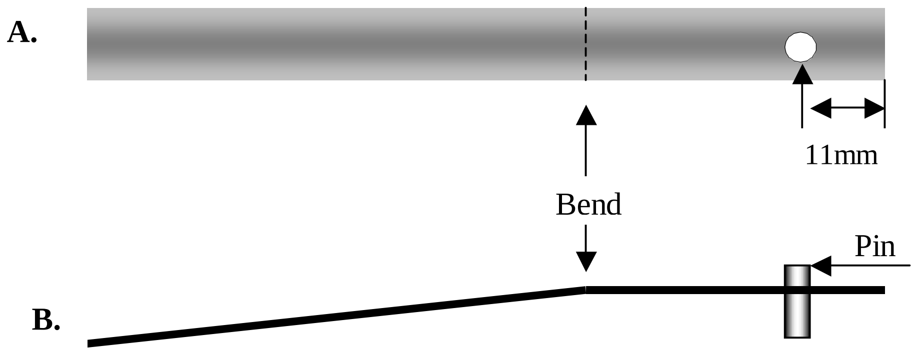
The barrel is then inserted into the front of the receiver. The outside circumference of the barrel may require polishing before it will slide freely into the receiver.

After checking the barrel will slide freely back and forth inside the receiver the barrel should be removed so the position of the 'barrel lock notch' can be marked and cut into the barrel. The barrel lock spring will fit into this notch in due course to hold the barrel in the locked position. Measure a distance of 165mm (6 ½") from the barrels muzzle and scribe a line. Cut the notch at this position to a depth of around 1.5mm.

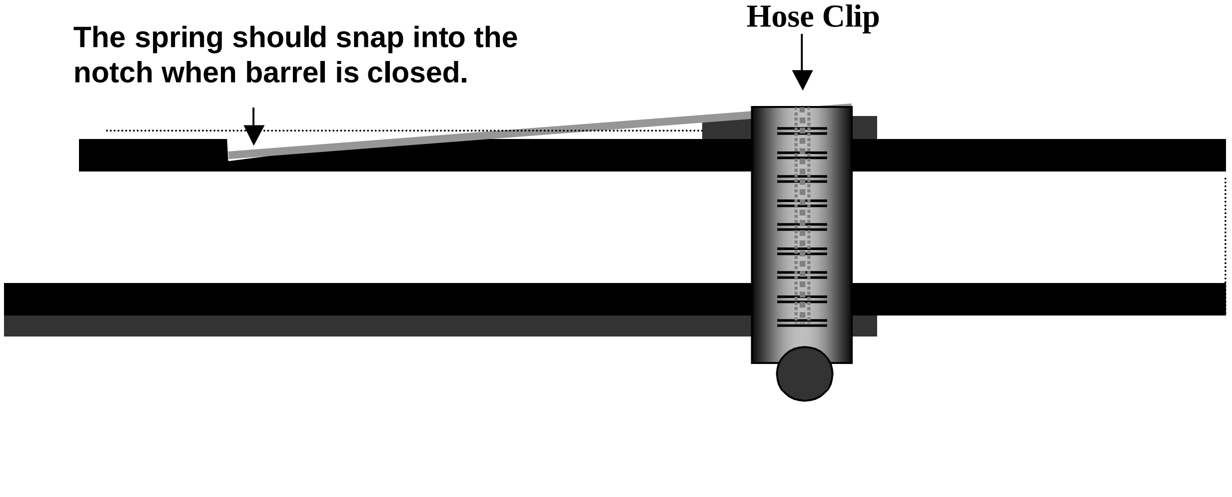


FITTING THE LOCK SPRING

The barrel lock spring is responsible for locking the barrel in the closed position when the weapon is ready for firing. It consists of a 3 ¾" x ½" length of 18 gauge spring steel, this being slightly longer than necessary to allow for hand fitting. A 4mm hole is drilled through the spring in the position shown in drawing 'A'. The spring is then formed to the shape of drawing 'B'. The drawing is not to scale.



The spring is fitted to the top of the receiver and held in place using a pin and hose clip arrangement. The pin (dowel pin or similar) must be a tight tap fit. It is tapped into the spring hole so that 1mm is visible above the spring and 2mm is visible below it, as illustrated in Figure 'B'. The spring is then fitted to the receiver by inserting the pin into the blank hole we drilled earlier in the front of the receiver. A hose clip is then placed over the receiver and spring and thoroughly tightened, to securely attach the spring to the receiver, as illustrated below. When the barrel is pushed back, the spring should snap into the slot in the barrel, locking the barrel closed. To unlock the barrel for loading or cleaning etc, the barrel is twisted in either clockwise or anti-clockwise direction. This will lift and disengage the spring, allowing the barrel to slide forwards.

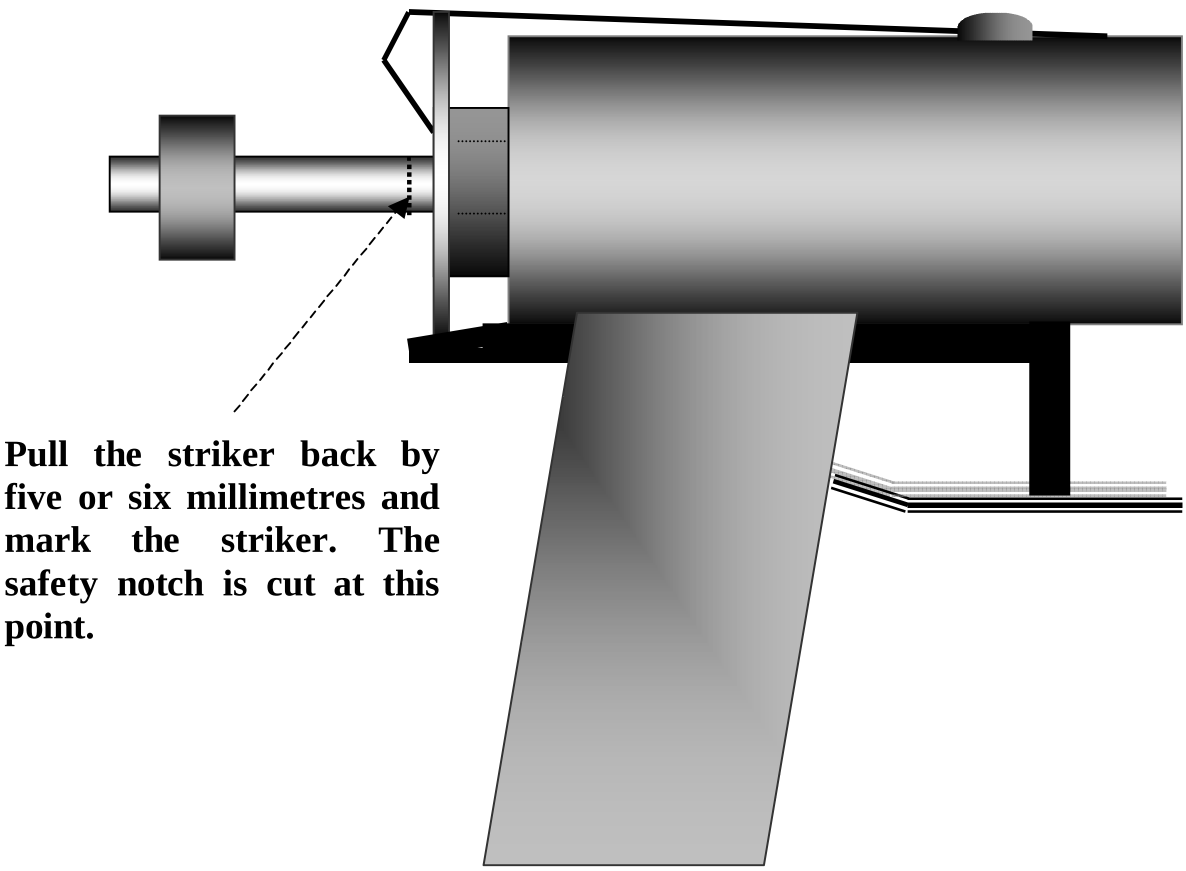


MARKING THE SEAR NOTCHES

The firearm is now fully assembled except for cutting the striker safety notch and the sear notch. The safety notch allows the striker to be placed in the half cocked position. When the firearm is ready to fire the striker is pulled back to the fully cocked position. The position of the two notches can only be marked onto the striker when the weapon is fully assembled.

To mark the position of the safety notch the striker must be pulled back several millimetres, five or six would be quiet sufficient. With the striker pulled back to this position place a small mark across the striker, as shown below.

The fully cocked position can now be marked onto the striker by pulling the striker fully back and making a second mark.



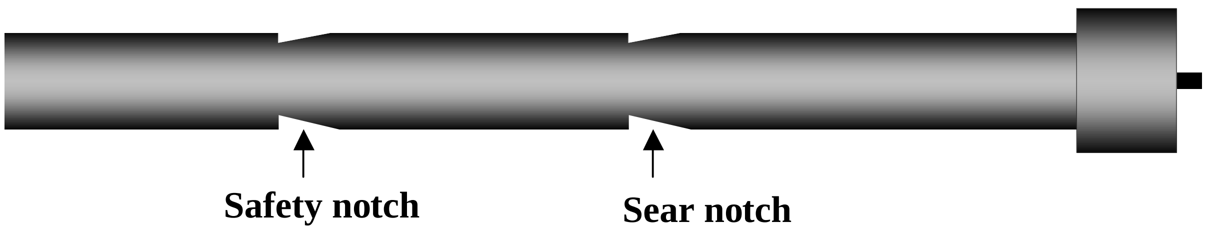
CUTTING THE NOTCHES

With the position of the notches marked onto the striker we can begin to cut the two notches to their correct dimensions. The two notches should be 1.5-2mm deep and must be cut with a reasonable degree of accuracy.

The two notches must be cut around the entire circumference of the striker. The simplest way of doing this is using a lathe. However, if a lathe is unavailable, an ordinary electric drill may be used for this purpose.

The drill may be clamped in a suitable vice and the striker placed in the drill chuck. Using this method, in conjunction with a hacksaw blade and a small needle file, the two notches can be easily cut with the striker spinning in the improvised drill-lathe.

STRIKER



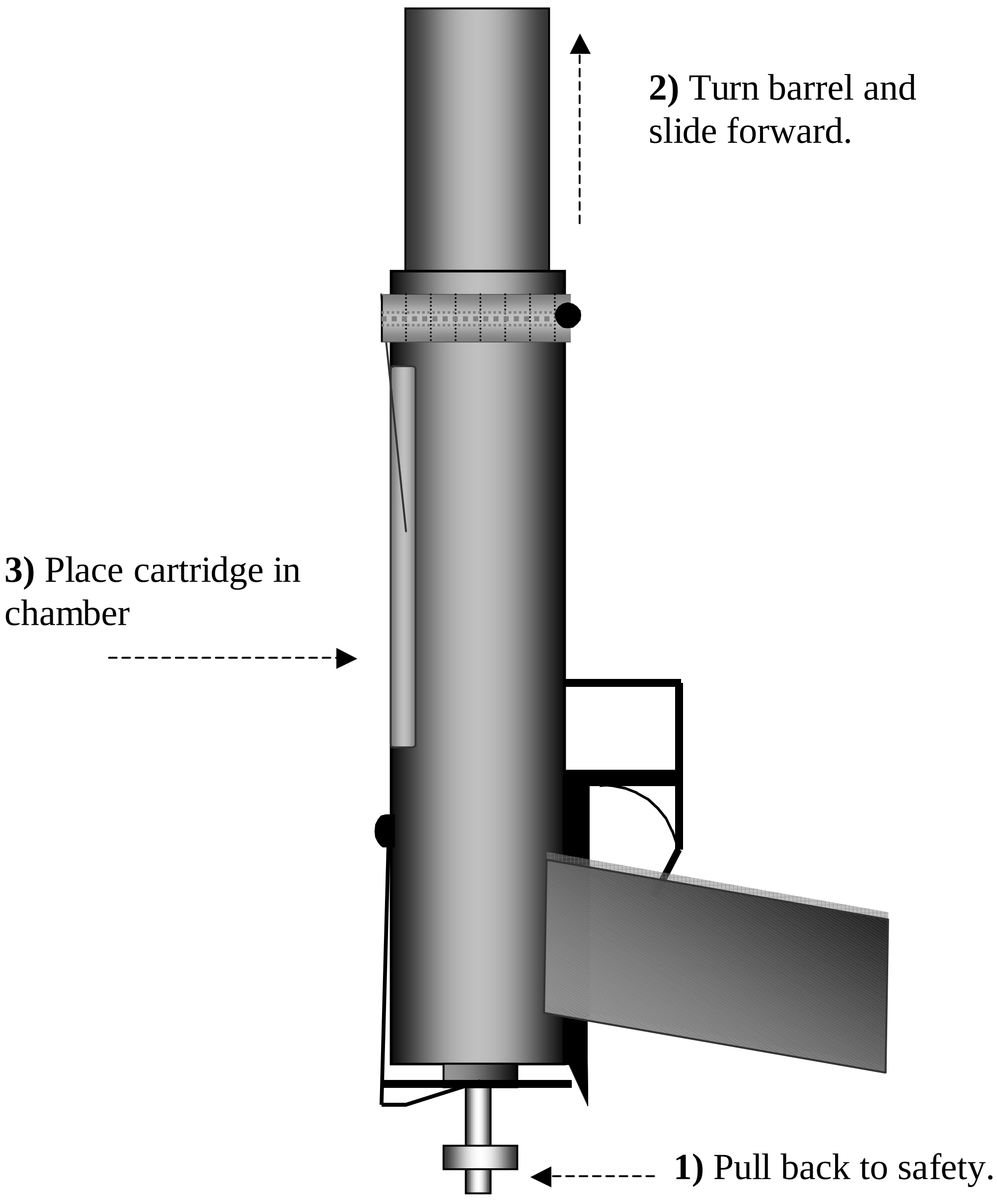
With the notches cut, the striker can be re-fitted and the weapon is ready to test fire.

LOADING AND FIRING

To load:

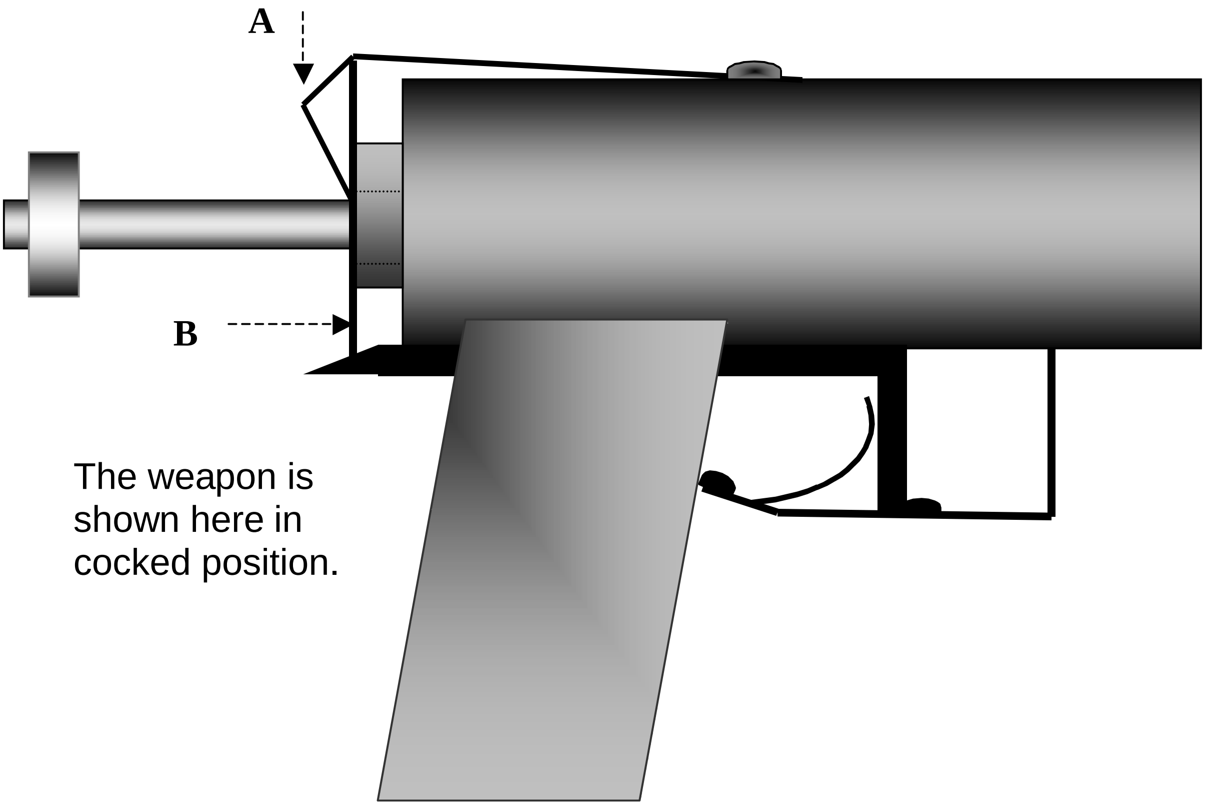
1) Pull striker back to safety position. **2)** Turn barrel and slide forward. **3)** Insert cartridge into chamber. **4)** Close barrel and ensure barrel is locked. **5)** Pull striker to full cocked position. **6)** Squeeze trigger and hold on tight.

Read warning on Page 23



HOW THE ACTION WORKS

The action is very simple in design.
When the striker is pulled back to cock the weapon, the sear spring 'A' pushes the sear 'B' downwards to lock the striker in the cocked position.
When the trigger is pulled the sear is forced upwards, the striker is released and flies forward to fire the weapon.



The weapon is shown here in cocked position.

WARNING

Assuming that the reader has engaged in the appropriate level of subservient grovelling, has acquired the licenses, permits and paperwork to legally construct firearms, and is of otherwise sound mind, please observe the following notices.

Under **NO CIRCUMSTANCES** place your hand **OVER THE BARREL MUZZLE** when closing the barrel.
If you do, ***YOU WILL LOOSE YOUR HAND***!!
The barrel must only be closed with the striker in the **HALF COCKED** position and by grasping the **SIDES OF THE BARREL.**

LEGAL STUFF

The construction of firearms in most jurisdictions is illegal.
This material is presented for academic study purposes only.